

**WHAT IS CLAIMED IS:**

1. A system for designing roads, which executes road design by a terminal connected to a computer network, comprising:

a terminal device, which has a function of a client, for  
5 inputting information of design conditions and personal information of a user;

a server of designing roads, which has a function of a server, for offering a service for designing roads on the basis of said information of design conditions and said personal information  
10 inputted by said terminal device; and

a computer network for linking said terminal device to said server, wherein

said server of designing roads comprises,  
network processing means, which is connected to said  
15 computer network, for receiving said information of design conditions and said personal information inputted by said terminal device and for receiving and sending information with said terminal device, and

road design processing means for executing road design on  
20 the basis of said information of design conditions and said personal information received by said network processing means and for generating road design maps and calculation documents.

2. The system for designing roads of claim 1, wherein  
said network processing means transmits said road design  
25 maps and said calculation documents generated by said road design processing means to said terminal device.

3. The system for designing roads of claim 2, wherein  
said network processing means transmits said road design

maps and said calculation documents to said terminal device as Web pages.

4. The system for designing roads of claim 2, wherein said network processing means transmits said road design maps and said calculation documents to said terminal device as E-mails.

5. The system for designing roads of claim 1, wherein said terminal device transmits said information of design conditions and said personal information of the user by inputting on Web pages provided by said server of designing roads.

6. The system for designing roads of claim 1, wherein said road design processing means comprises:

road design map generating means for generating said road design maps; and

cutting and banking planes calculating means for calculating a mass of cutting and banking planes and an area of a slope finishing mentioned in said calculation documents.

7. The system for designing roads of claim 6, wherein said road design map generating means of said road design processing means changes a road centerline on an arbitrary point continuously and automatically in accordance with an instruction to input externally.

8. The system for designing roads of claim 6, wherein said road design map generating means of said road design processing means changes a road vertical curve on an arbitrary point continuously and automatically in accordance with an instruction to input externally.

9. The system for designing roads of claim 6, wherein said

road design map generating means of said road design processing means changes a figure of an intelli-shape automatically in accordance with an instruction to input externally.

10. The system for designing roads of claim 7, wherein said  
5 road design map generating means of said road design processing means shows change ranges of a road centerline, a road vertical curve and a figure of an intelli-shape in accordance with an instruction to input externally.

10 11. The system for designing roads of claim 6, wherein said cutting and banking planes calculating means of said road design processing means uses a three dimensional patch (curve plane) of a standard crossing.

12. A method for designing roads, which executes road design by using a computer network, comprising the steps of:

15 (A) transmitting screen images for offering information to a terminal device connected to the computer network;

(B) receiving information of design conditions and personal information of a user inputted on the screen images for offering information by the terminal device;

20 (C) designing roads on the basis of the information of design conditions and the personal information received in said step (B) and generating road design maps and calculation documents; and

(D) transmitting the road design maps and the calculation documents generated in said step (C) to the terminal device.

25 13. The method for designing roads of claim 12, wherein said steps (A) and (D) comprises the step of transmitting the screen images for offering information, the road design maps and the calculation documents to the terminal device as Web pages.

14. The method for designing roads of claim 12, wherein said step (D) comprises the step of transmitting the road design maps and the calculation documents to the terminal device as E-mails.

5 15. The method for designing roads of claims 12, said step of (C) comprises the steps of:

(c1) designing roads on the basis of the information of design conditions and the personal information received in said step (B) and generating road design maps;

10 (c2) calculating a mass of cutting and banking planes and an area of a slope finishing on the basis of the road design maps; and

(c3) generating calculation documents mentioned the mass of cutting and banking planes and the area of a slope finishing.

15 16. The method for designing roads of claim 15, wherein said step (c1) comprises the step of changing a road centerline on an arbitrary point continuously and automatically in accordance with an instruction to input externally.

20 17. The method for designing roads of claim 15, wherein said step (c1) comprises the step of changing a road vertical curve on an arbitrary point continuously and automatically in accordance with an instruction to input externally.

25 18. The method for designing roads of claim 15, wherein said step (c1) comprises the step of changing a figure of an intelli-shape automatically in accordance with an instruction to input externally.

19. The method for designing roads of claim 16, wherein said step (c1) comprises the step of showing change ranges

of a road centerline, a road vertical curve and a figure of an intelli-shape.

20. The method for designing roads of claim 15, wherein

5 said step (c2) comprises the step of calculating a mass of cutting and banking planes and an area of a slope finishing by using a three dimensional patch (curve plane) of a standard crossing.